

What is claimed is:

1. An apparatus comprising:

a plunger;

a stator that forms a magnetic circuit in combination with the plunger, the stator further defining:

an accommodating portion for supporting the plunger with the accommodating portion so that the plunger is capable of reciprocation; and

an attracting portion, wherein a magnetic attractive force attracts the plunger in a reciprocating direction of the plunger and acts between the attracting portion and the plunger; and

a coil that generates the magnetic attractive force when energized,

wherein either one or both of at least an outer peripheral wall of the plunger and at least an inner peripheral wall of the accommodating portion form(s) a magnetic portion made of nickel phosphide, and

the phosphorus content of the magnetic portion is set within a range of 5% to 15% in mass percentage.

2. The apparatus according to claim 1, wherein the magnetic portion is heat treated.

3. An apparatus comprising:

a cylindrical housing defining a plurality of fluid paths through a peripheral wall thereof;

a plunger;

a stator located adjacent to the cylindrical housing, the stator forming a magnetic circuit in combination with the plunger, the stator further defining:

an accommodating portion for supporting the plunger with the accommodating portion so that the plunger is capable of reciprocation; and

an attracting portion, wherein a magnetic attractive force attracts the plunger in a reciprocating direction of the plunger and acts between the attracting portion and the plunger;

a coil that generates the magnetic attractive force when energized,

wherein either one or both of at least an outer peripheral wall of the plunger and at least an inner peripheral wall of the accommodating portion form(s) a magnetic portion made of nickel phosphide, and

the phosphorus content of the magnetic portion is set within a range of 5% to 15% in mass percentage;

a moving member for reciprocating together with the plunger to control a flow rate of fluid flowing through the fluid paths; and

a biasing means for biasing the moving member in a direction opposite to a direction in which the plunger is attracted by the attracting portion.